CHAPTER 1 PURPOSE OF AND NEED FOR ACTION

1.1 Introduction

This Environmental Impact Statement (EIS) has been prepared in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This EIS discloses the direct, indirect, and cumulative environmental impacts that would result from the Proposed Action and alternatives. The document is organized into four chapters:

Chapter 1. Purpose of and Need for Action: Chapter 1 includes information on the history of the project proposal, the purpose of and need for the Project, and the agency's proposal for achieving that purpose and need. This section also details how the United States Forest Service (Forest Service or USFS) informed the public of the proposal and how the public responded.

Chapter 2. Alternatives, including the Proposed Action: Chapter 2 provides a more detailed description of the agency's Proposed Action, as well as alternative methods for achieving the stated purpose. These alternatives were developed based on issues raised by the public and other agencies. This discussion also includes mitigation measures. Finally, this section includes a summary table that provides a comparison of the environmental consequences associated with each alternative.

Chapter 3. Affected Environment and Environmental Consequences: Chapter 3 describes the affected environment and environmental effects of implementing the Proposed Action-Alternative 2 and other alternatives. This analysis is organized by issue resource areas.

Chapter 4. Consultation and Coordination: Chapter 4 summarizes public and agency involvement activities undertaken by the Forest Service during development of the EIS. Activities included scoping, formal consultation related to biological and cultural resources, and tribal consultation. This chapter also identifies the names of the personnel from the Forest Service, the Interdisciplinary Team (3rd Party Contractor, POWER Engineers [POWER]) and other federal, state, and local agencies and their areas of expertise and responsibility in preparing the EIS.

References: lists the documentation (technical reports and documents, personal communications, etc.) that was consulted to prepare the EIS.

Index: provides page numbers by document topic.

Appendices: The appendices provide more detailed information to support the analyses presented in the EIS.

Additional documentation, including more detailed analyses of project-area resources, may be found in the Project Record.

1.2 Background

The Gallatin Valley and Big Sky are among the fastest growing areas within NorthWestern Energy's (NorthWestern) service territory and prompts the need for additional electric infrastructure. An electrical transmission system is designed to meet customers' electrical demands through the year, including certain line outage conditions. The Big Sky area load is

currently served from two 69 kilovolt (kV) feeds – one from the Ennis Auto Substation at Ennis, and the other from the Jack Rabbit Substation near Four Corners, west of Bozeman. The two service paths provide geographic diversity to the electrical system that services the Big Sky area.

The geographic diversity increases the reliability of the electrical system. During heavy energy loads (or demands for electricity) in the Big Sky area, an outage of either of the existing two transmission lines that serve the area could result in low voltage or thermal overloading (excessive current flow in a circuit causing overheating and unacceptable sagging of the conductors) of electrical equipment or, under the most critical conditions, cause a wide-scale outage in the Big Sky community. Wide-scale outages would be most likely during winter months when energy demands are highest in the Big Sky area from home heating and winter resort activities.

The existing transmission line from Jack Rabbit to Big Sky Meadow Village was constructed in the early 1970s and is approaching its design physical life. The existing conductor is a small 3/0 aluminum conductor with steel reinforced (ACSR) wire that has limited thermal and voltage capacity for serving as the sole source of electricity for the existing peak loads (electricity demand) and projected load growth (future electricity needs) in the Big Sky area.

Combined peak load (electricity demand) of both the Lone Mountain and Meadow Village substations, which together serve the Big Sky Area loads, was 29 megawatts (MW) in January 2007. That peak load (electricity demand) was repeated again in January 2008, when temperatures were above normal for the time of year, indicating further load growth because the electrical system was not being drawn upon due to climatic conditions, but rather increased customer demands.

Should the existing 69 kV transmission line from Ennis to Big Sky experience an outage, the limitations of the existing Jack Rabbit to Meadow Village 69 kV transmission line would allow service for only about half this load. An event of this type would likely require load shedding (a process of shutting off service to customers to avoid losing service on the entire system during periods of excessive load demand), and extended customer outages.

Changes associated with the proposed 69 kV transmission line upgrade to 161 kV are summarized in Table 1-1 below.

TABLE 1-1 SUMMARY OF TRANSMISSION LINE UPGRADE AND SYSTEM BENEFITS

TRANSMISSION UPGRADE ACTIVITY	SYSTEM BENEFIT
Replace existing 69 kV structures and hardware with 161 kV structures and hardware.	New structures and hardware would be more durable and reliable. Structures and hardware designed to support higher voltage (161 kV) would increase system capacity to service the Big Sky area load (both existing and projected future). Rebuilding the existing 69 kV transmission line would retain geographic diversity in the electrical system needed for reliability.
Increase right-of-way (ROW) width.	Increase ROW width would accommodate 161 kV transmission structures that provide increased reliability to the electrical system.
Replace underbuild distribution. *Underbuild distribution is the set of lower voltage conductors (12.5 kV) that provides service to residences. Underbuilding or hanging these conductors on the transmission line poles results in co-mingling the infrastructure. If the span length between*	Distribution replacement from 3-wire to 4-wire will provide more reliable electrical service to customers due to upgraded equipment and technology.

TRANSMISSION UPGRADE ACTIVITY	SYSTEM BENEFIT
transmission poles is great enough, individual distribution poles may be required to support the underbuild distribution line.	
Allow fiber optic capacity on the new shield wire.	Allowing commercial fiber optic capacity in the shield wire (top wire on structures above the transmission conductors that provides lightning protection and communication service between substations) will provide the potential for additional fiber optic service to the Big Sky area.

1.3 Purpose and Need for Action

1.3.1 Purpose of the Proposed Action

The purpose of the Proposed Action is to meet increasing load demands and electrical system reliability for the Gallatin Canyon and Big Sky, Montana area. Reliability needs would be met by increasing the capacity of the transmission line from Four Corners to Big Sky, while maintaining reliability by having two separate sources (i.e., geographically diverse) that provide electrical service to the Big Sky area (one electric feed from Ennis and one electric feed from Four Corners). The proposed transmission line upgrade from 69 kV to 161 kV would provide a solution to adequately address both the current demands and expanded capacity for the foreseeable future cost-effectively. The transmission line upgrade would deliver available energy to where the electrical demand is increasing. The purpose of the Project is to:

Increase electrical transmission capacity to 161 kV between Four Corners and Big Sky to meet present and future electrical demands in the Big Sky area for the next 30 to 50 years.

Improve reliability of the local electrical system so that it can meet current and future load demands to avoid potential black out conditions during peak load periods and meet system demands in the Big Sky area.

Improve transmission line reliability through retaining local electrical system geographic diversity for transmission lines providing service to the Big Sky area.

1.3.2 Need for the Proposed Project

The Gallatin Valley and Big Sky are among the fastest growing areas within NorthWestern's service territory. NorthWestern is the sole electricity provider for the project area. Electrical utility companies in the United States must plan, operate, and maintain their transmission systems according to the North American Electrical Reliability Corporation (NERC) reliability standards. NERC develops and enforces reliability standards; monitors power systems; assesses future adequacy; audits owners, operators, and users for preparedness; and educates and trains industry personnel. NERC works with eight regional entities to improve the reliability of the bulk power system.

The Jack Rabbit to Big Sky Meadow Village system operates under the guidance of the Western Electric Coordinating Council (WECC), and NorthWestern must remain in compliance with these industry standards. When electrical service is provided to an area, the bulk electrical system must be built with sufficient redundancy to enable the system to reliably operate in the event of the loss of any single element (e.g., loss of a transmission line or other critical element in the system). In the simplest application of these standards, a bulk transmission system consisting of one line and one substation would have to be constructed with an additional (redundant) line and necessary

substation components capable of providing backup electrical paths in the event one part of the system (e.g., one of the transmission lines) is lost due to an unexpected outage. Outages must also be planned to perform maintenance.

In the scenario of the Proposed Project, Big Sky is provided electrical service from two transmission sources: 1) from the Ennis 69 kV transmission line; and 2) from the Jack Rabbit 69 kV transmission line. The two transmission lines servicing Big Sky provide the required redundancy through geographic diversity; however, the existing Jack Rabbit 69 kV transmission line does not have adequate capacity to meet load demands in an event that the Ennis 69 kV line loses service.

The electrical power demand in the Big Sky area is currently served from two 69 kV transmission lines – one from the Ennis Auto Substation at Ennis, and the other from Jack Rabbit Substation near Four Corners, west of Bozeman. On an annual basis, current usage exceeds capacity of the Jack Rabbit 69 kV line about 40 percent of time. In the event of a power outage from the Ennis Auto side, there is inadequate infrastructure to serve the electrical load from the Jack Rabbit Auto and some level of power outage would be experienced in the entire area.

As the Big Sky area continues to grow, this situation will worsen. These reliability shortfalls do not meet industry standards. Rebuilding and upgrade of the existing 69 kV transmission line to a 161 kV transmission line between the Jack Rabbit substation and the Meadow Village substation, and an upgraded distribution circuit, eliminates the adequacy and reliability problems associated with the current electric transmission system. This Proposed Project would meet the current energy demands and provide for anticipated growth, which would better comply with industry standards and customer needs.

1.4 Proposed Project

The proposed 161 kV transmission line would replace the existing 69 kV transmission line along and within the existing right-of-way (ROW) on National Forest System (NFS) lands of the Gallatin National Forest (GNF). The proposed 161 kV transmission line would be constructed from the existing Jack Rabbit Substation located near Four Corners, west of Bozeman, Montana, to the existing substation near Big Sky Meadow Village, a distance of approximately 37 miles. The rebuilt transmission line would cross approximately 16 miles of NFS lands, and this portion of the line is the subject of this EIS. Figure 1-1 depicts the entire project between the existing Jack Rabbit Substation and the existing Big Sky Meadow Village Substation.

The new line would consist primarily of single wood poles placed approximately 300 feet apart, with an average pole height of approximately 60 feet. Single wood pole structures are the preferred structure type. Guyed single wood pole, self-supporting single steel pole, wood laminate, and H-frame structures may be used in areas identified during design that will require additional support due to terrain, span length and structure load. These more substantial structures would only be permitted where the design indicates that wood poles are technologically infeasible or environmentally undesirable.

These structures are described in more detail in Section 2.3.6. Depending on terrain and other design criteria, pole height could be up to 90 feet tall. It is anticipated that portions of the existing ROW crossing NFS lands would need to be cleared and widened by approximately 10 to 15 feet to meet safety standards.

The current ROW width for the existing 69 kV transmission line is approximately 40 feet and the new ROW width for the proposed 161 kV transmission line would be approximately 50 feet.

Once engineering is completed, the design will identify any areas that are proposed for H-frame structures or guying. These areas would require additional ROW beyond the 50 feet mentioned above.

For H-frame structures approximately 80 feet of ROW would be needed, and for guyed structures, guy-wires would likely be anchored outside the 50-foot ROW. Both H-frame and guyed structures will be used on a limited basis and installation will require resource clearance work prior to installation.

Construction is expected to take approximately three years to complete the entire 37 miles. The construction schedule for the portion of the transmission under evaluation in this EIS is approximately two years, beginning in 2013. A full description of the Proposed Action can be found in Chapter 2.

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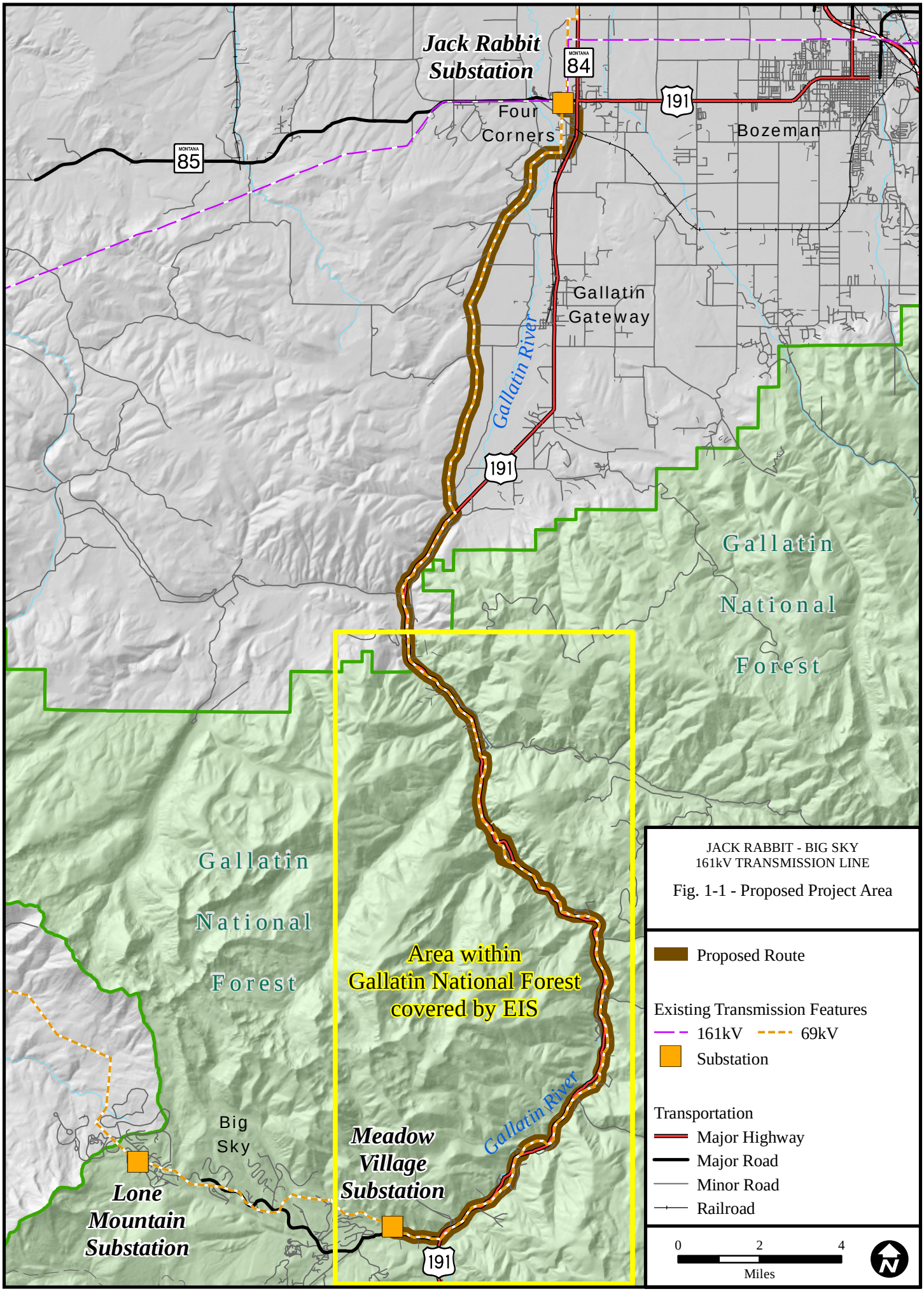
Jack Rabbit Substation
Four Corners
MONTANA 84
191
Bozeman
MONTANA 85
Gallatin Gateway
Gallatin River
191
Gallatin National Forest
Gallatin National Forest
Area within Gallatin National Forest covered by EIS
Big Sky
Meadow Village Substation
Gallatin River
Lone Mountain Substation
191
JACK RABBIT - BIG SKY
161kV TRANSMISSION LINE
Fig. 1-1 - Proposed Project Area
Proposed Route
Existing Transmission Features
161kV
69kV
Substation
Transportation
Major Highway
Major Road
Minor Road
Railroad
0
2
4
Miles
N
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1.5 Decision Framework

The Forest Service is obligated to respond to special use applications on NFS lands. NorthWestern filed an application (SF-299) to amend their existing Special Use Permit (SUP) in May 2008, which included the need for the Proposed Action, and after being accepted by the GNF in August 2008, the EIS process was initiated. Given the purpose and need, the deciding official for the GNF reviews the Proposed Project, the other alternatives, environmental consequences, and public input in order to make the following decisions:

Whether to amend the existing SUP for the existing 69 kV transmission line to authorize an upgrade of the transmission line from 69 kV to 161 kV.

Selection of the route ROW and approval of construction, operation and maintenance activities. A route outside of the existing ROW corridor would automatically include a decision for a site specific Forest Plan amendment designating the new ROW corridor as Management Area 25 (electrical transmission lines, pipelines, climatic snow measuring sites and electronic sites). In addition, a new route outside of the existing ROW corridor may require a site specific Forest Plan amendment to the Forest-wide standard for Wild and Scenic Rivers (Standard 16g).

Amending the existing SUP for the existing 69 kV transmission line 40-foot ROW to a 50-foot ROW for the 161 kV transmission line. The amended SUP would identify specific cases where H-frame and guyed structures would be used and the ROW extends beyond 50 feet.

Determine if the environmental and social tradeoffs are acceptable, and whether proposed mitigation is appropriate to minimize, reduce, or avoid impacts. This is determined by weighing the short and long term effects and tradeoff to resources, such as historic and archaeological sites, recreational residences, and scenic impacts against the long term risk of unreliable electrical service to the public.

NorthWestern has an existing SUP issued by the Forest Service to operate and maintain the existing 69 kV transmission line and ROW, which will expire at the end of 2012. There is a reissuance option, however if the Proposed Action or one of the alternatives is approved, there would be no need for a reissuance.

1.5.1 Authorizations, Permits, Reviews, and Approvals

Various approvals and/or permits would be required from other agencies or jurisdictions to implement one or more of the components of the Proposed Project. Table 1-2 lists the major federal, state and local authorizations, permits, reviews and approvals identified for the construction and operation of the Proposed Project. Other authorizations, permits, reviews or approvals for construction and operation may be required. NorthWestern would be responsible for obtaining all permits and approvals required to implement the Proposed Project.

TABLE 1-2 FEDERAL, STATE, AND LOCAL PERMITS, APPROVALS, AND AUTHORIZING ACTIONS

ISSUING AGENCY	PERMIT/ APPROVAL NAME	NATURE OF PERMIT	AUTHORITY
FEDERAL GOVERNMENT			
US Forest Service (USFS)	Environmental Impact Statement (EIS), Record of Decision (ROD)	National Environmental Policy Act (NEPA) Compliance to grant right-of-way (ROW) and USFS Special Use Permit.	NEPA, CEQ 40 CFR Part 1500-et. seq.
US Forest Service	Special Use Permit	Authorizes Grant of ROW across National Forest Service (NFS) lands.	36 CFR Part 251 Subpart B, Federal Land Policy and Management Act (October 21,1976), Gallatin National Forest, Forest Plan (1987)
US Fish and Wildlife Service (USFWS)	Endangered Species Act (ESA) Compliance by USFS. Section 7 consultation w/ USFWS Biological Assessment (BA)	Evaluates federal action impacts to federal protected species under ESA.	Endangered Species Act, Section 7
US Army Corps of Engineers (USACE)	Section 404 Permit (Clean Water Act) Nationwide Permit/Individual Permit	Controls discharge of dredged or fill materials in wetlands and other Waters of the US.	Section 404 of the Clean Water Act (33 CFR 323.1,330)
Federal Aviation Administration (FAA)	Notice of Proposed Construction or Alteration	Tower location and height relative to air traffic corridors.	49 USC 1501 13 CFR 77 Objects Affecting Navigable Airspace
STATE GOVERNMENT			
Montana Department of Environmental Quality (DEQ)	Section 401 Water Quality Certification	Provides a review of potential adverse water quality impacts potentially associated with discharges of dredged or fill materials in wetlands and other Waters of the US.	Section 401 of the Clean Water Act
	General Discharge Permit for Stormwater and NPDES permit Associated with Construction Activity and timber harvest	Permits construction and industrial activities for the Project that would result in the discharge of stormwater to Waters of the state.	Montana Water Quality Act (75-5-401 et seq., MCA)
	318 Authorization short-term turbidity	Authorizes short-term exemptions from certain surface water quality standards.	Montana Water Quality Act (75-5-101 MCA)
	Streamside Management Zone (SMZ) Compliance	Provides rules for timber sales that harvest trees in riparian areas. Alternative practices approval is required if deviating from permissible activities.	Montana DEQ, Forestry Division; Streamside Management Zone Law (77-5-301 MCA)

ISSUING AGENCY	PERMIT/ APPROVAL NAME	NATURE OF PERMIT	AUTHORITY
	Certificate of Compliance	Authorizes construction and operation of certain transmission lines with a design capacity greater than 69 kV.	Major Facility Siting Act (MFSA) 75-20-101 et seq., MCA
Montana Department of Transportation (MDT)	Utility Crossing Permit	Grant utility crossing permits for transmission line and access roads that may encroach on state maintained routes.	RW131 and/or RW20
	Temporary Approach Permit	Required for using existing approaches onto MDT highways (US Hwy 191 & MT Hwy 64)	MCA Title 60
State Historic Preservation Office (SHPO)	Section 106 of the National Historic Preservation Act	Consults with project applicants and state agencies regarding impacts on cultural resources that are either listed or eligible for listing on the National Register of Historic Places.	Montana Antiquities Act (22-3-421 through 442, MCA)
LOCAL GOVERNMENT			
County Conservation Districts	310 Permit Montana Joint Application	Permits construction activities in or near referenced streams on NFS and private lands. See Montana DEQ Montana Joint Application.	Montana Natural Streambed and Land Preservation Act (75-7-101 et seq., MCA)
County Weed Control Districts	Noxious weed management program	Provides containment, suppression and eradication of noxious weeds.	Title 7 (7-22-2101-2153, MCA)
County Floodplain Administrators	Floodplain Development Permit Montana Joint Application	Allows construction activities within a designated 100-year floodplain. See Montana DEQ Montana Joint Application.	Montana Flood Plain and Floodway Management Act (76-5-401 through 406, MCA)
Board of County Commissioners	Easement grants and road-crossing permits	Consider issuance of ROW easement grants and road-crossing permits for county property and roadways.	Gallatin County
Gallatin County Planning Department	Land Use Permit	Permit for all land development and building activity in the county within established zoning districts.	76-2-301, MCA, et. seq. 76-3-501, MCA, et seq. 67-6-20, MCA, et seq. 76-1-606, MCA
Gallatin County	Burning Permit (annual)	Permit required for open fire or fires.	Gallatin County

1.6 Public Involvement

In accordance with NEPA requirements, the Forest Service completed project scoping during April 2009 and after internal review, determined that the preparation of an EIS is the appropriate level of analysis for the Proposed Project. Under NEPA, project scoping must be conducted both internally with appropriate Forest Service staff, and externally with interested and potentially affected public, agencies, tribes, and organizations (40 CFR 1501.7).

On March 6, 2009, Dear Interested Party letters were sent to other landowners, agencies, and interested parties retained on a mailing list developed by the Forest Service. The notification packet included the letter, project summary, a map showing the preliminary route under consideration, a continued interest confirmation form, and before and after (simulation) photographs. Initial scoping for the Proposed Project was completed during the April 2009 by the Forest Service, and based on these comments and an internal review, the Forest Service interdisciplinary team recommended the publication of the Notice of Intent (NOI) to publish a EIS in the Federal Register.

The NOI, published in the Federal Register on June 8, 2010, asked for public comment on the proposal during the 30-day comment period (June 9 to July 8, 2010) following publication of the NOI. In addition to the Federal Register notice, postcards and e-mails providing notification of the Proposed Project route centerline, the intent of the Forest Service to prepare a EIS, a description of the Proposed Project, Proposed Project timelines, methods to provide comments, and comment deadlines were sent to landowners, agencies, and interested parties retained on a Forest Service mailing list, and to landowners having land parcels within the Proposed Project Area. A total of 330 postcards and 24 e-mails were sent on May 17, 2010. The Forest Service issued a press release about the availability of the NOI to the local media on June 7, 2010 and posted information on the Forest Service website announcing the project and requesting comments. A paid advertisement was placed in the Bozeman Daily Chronicle on May 18, 2010. The NOI; copies of the postcards, emails, paid advertisement; and a list of media outlets that picked up the press release may be found in the Project Record.

Scoping comments were received from federal and state agencies, the general public, private organizations, and private citizens. Agencies that provided comments included the US Environmental Protection Agency (EPA) Region 8, Montana Fish, Wildlife and Parks, and the Montana Department of Transportation (MDT). Government-to-government Tribal consultation with the Confederated Salish and Kootenai Tribal Historic Preservation Office (THPO), Eastern Shoshone Tribe THPO, Crow Tribal Council, Crow Cultural Committee, Nez Perce Tribe, Shoshone-Bannock Business Council, and Wind River Shoshone Cultural Committee was initiated by the GNF to identify issues of concern to Native Americans regarding the Proposed Project. Comments were provided by email, letter, and written correspondence to the Forest Service. Using the comments received, the interdisciplinary team (ID) developed a list of issues to address. The comments received may be found in the Project Record.

Notice of availability of the DEIS (October 2012) was sent to the mailing list of over 100 interested persons. A mix of letter notices, compact-disk, and hard-copy DEIS documents were distributed. Paper copies were available upon request. A legal notice of availability was published in the Bozeman Daily Chronicle. A news release was sent to all local and regional news outlets including newspaper, radio and television stations. The District provided an opportunity to meet with any and all interested persons during the comment period and also held one public open house Big Sky, Montana (November 2012).

1.7 Issues

Comments received during public scoping and initial ID team review of the Proposed Action identified a preliminary list of issues associated with construction, operations, and maintenance. Upon further refinement of these preliminary issues, they were separated into three groups: 1) those issues that generated an alternative Local Routing Option (LRO) or are key issues; 2) those issues that did not generate alternative development but warranted detailed analysis; and 3) resource issues that were eliminated from detailed analysis.

Key issues that generated alternative development included scenery impacts, historic and archaeological resources, transportation and traffic, and access to NFS lands.

Analysis issues that did not generate alternative development but warranted detailed analysis were identified as those that would have minimal impact or were mitigated. This detailed analysis is also important for displaying the differences, if any, between the alternatives to better inform the decision.

Resource issues that were eliminated from detailed analysis are described in the Council on Environmental Quality (CEQ) NEPA regulations and explained in Sec. 1501.7, "…identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)…"

Partitioning issues in this manner permits the Forest Service to sharpen the focus of environmental analysis, avoid extraneous or distracting discussion, and provide clear guidance to decision makers and the public. The Forest Service assisted in identification of these three groups of issues which are described in Sections 1.7.1 through 1.7.3 below:

1.7.1 Key Issues

Issue #1 – Scenery

The viewshed of the Gallatin Canyon consists of high quality scenery that is highly valued by both local residents and visitors to the area. The existing transmission line has altered scenery in the canyon with the presence of transmission structures and wires, and vegetation clearing within the existing ROW. Rebuilding the transmission line, which would include installing taller, larger diameter transmission structures, larger hardware, larger diameter conductors, and additional ROW clearing could affect the scenic values of the area. Some specific segments of the transmission line or specific transmission structure locations may be highly visible to people passing through the area or using it for recreational purposes. Residents of the Cave Creek and Cascade recreation residence tracts that are located adjacent to the existing transmission line ROW expressed concern for visual impacts. Project alternatives combined with planned highway improvements by the MDT may contribute to cumulative effects to scenic values.

Issue #2 – Historic and Archaeological Resources

The ROW for the Proposed Project crosses several historic sites, including numerous pastures and creek crossings. Ground disturbance, access roads, transmission structure placement and construction have a potential to affect these areas. The following concerns related to historic and archaeological sites were identified for the Proposed Project:

There are known historic and archaeological sites in the analysis area that could potentially be impacted by the Proposed Project.

There have been limited cultural resource surveys performed in the analysis area in the past; undiscovered historic and archaeological sites may exist in unsurveyed areas.

The GNF has identified unsurveyed locations within the Jack Rabbit to Big Sky Meadow Village Project Area that are likely to contain archaeological sites. A focused cultural resource survey of these sites was completed in the fall of 2009. A complete cultural survey of the entire permitted route and defined area of potential effects (APE) would be completed prior to construction. A historical architecture inventory of the recreation residences was completed in the fall of 2011. All cultural resource survey results are discussed in Chapter 3 of this EIS.

The Cascade Creek recreation residence tract is a site of particular concern to cabin owners because of the long-term nature of the use there.

Most of the known historic and archaeological sites in the Project Area have not been evaluated for their eligibility to the National Register of Historic Places (National Register).

Issue #3 – Transportation, Traffic, and Access to National Forest Service Lands

During the construction period of the project, activities would occur along the narrow United States Highway 191 (US Hwy 191) travel corridor, as well as at GNF access points, and would have a potential to increase traffic, cause traffic delays, and interfere with GNF access for recreationalists and recreational residences. These activities may also decrease traveler safety for temporary periods of time during construction. It would be expected that the operation and maintenance activities associated with the proposed transmission line upgrades would have minimal additional effects on travel or transportation along US Hwy 191.

Within the GNF, there are several enclaves (tracts) with recreation residences (cabins) that are permitted by the GNF. The privately owned cabins on leased NFS land are for private use and have been owned, often for generations, by families who visit the GNF for recreation and vacation.

The access concern raised by the residents of these cabins focused on the construction period and process, vegetation clearing, and that their access to the residences might be restricted or modified. Further, they expressed concern that damage might be done to the recreational cabins or the tract area, or that they might be displaced due to change or lack of access.

1.7.2 Analysis Issues

The following issues were identified for detailed analysis in this EIS as having the potential to be impacted by the Proposed Project, but would not drive alternative development.

Issue #4 – Recreation

The construction activities, as well as the long-term operation and maintenance of the transmission line associated with the Proposed Project, would affect recreationists, recreation resources, and businesses that rely on the recreation resources within the Gallatin Canyon.

Construction and operational activities such as ROW clearing, ground disturbance and new facilities would have a potential to alter the recreational values of these same areas within the GNF.

Recreation facilities located in the GNF include developed campgrounds, boat and raft launches, developed trailheads, hiking trails, and access to the Lee Metcalf Wilderness Area. The Gallatin Canyon area is also an important gateway for tourists visiting Big Sky and Yellowstone National Park. The Gallatin National Forest Management Plan of 1987 (Forest Plan) manages recreational activities with standards applied at two levels: Forest-wide and Management Areas.

Issue #5 – Wild and Scenic Rivers

The Proposed Project may impact the "outstandingly remarkable values" of the Gallatin River, a river the Forest Plan has determined to be eligible for inclusion in the Wild and Scenic Rivers System (Wild and Scenic Rivers Act 1968) as a "recreational river." Potential impacts would result from taller and larger diameter transmission structures, larger conductors, and additional ROW clearing.

The direction of the Forest Plan in regard to the Gallatin River is to protect the river's qualities and potential classification as a recreation river under the Wild and Scenic Rivers Act. Forest Plan Amendment #12 added a new management standard stating that "management activities will comply with the standards for Wild and Scenic Rivers from Chapter 80 of Forest Service Handbook (FSH) 1909.12."

Issue #6 – Inventoried Roadless Areas

Within the GNF, the current transmission line ROW and the proposed alternative ROWs are identified as passing through four segments of the Madison inventoried roadless area (IRA). Concerns have been raised during scoping that transmission line improvements, including access road construction, would diminish the character of the IRAs.

Issue #7 – Water Resources

Water Quality

Construction, operation, and maintenance for the Proposed Project could negatively affect water quality within the Project Area. Disturbed soils accelerate erosion and increase sediment in storm water runoff to receiving waters causing increased turbidity and channel sedimentation. Impacts to water quality could also result from accidental spills and leaks of petroleum, oil, and lubricants from equipment and vehicles used during construction of the transmission line.

Wetlands

Bottomlands associated with the Gallatin River, creeks, small ponds and seeps present a patchwork of wetlands that could potentially be affected by the Proposed Project. Locating proposed transmission structures and/or access roads in or next to wetlands may have a negative impact on wetland values which include riparian habitat for fish and wildlife, habitat connectivity, pollutant removal, sediment transport and storage, water temperature control, riverbank stability, flood water retention, groundwater recharge and energy and nutrient cycling. Locating proposed transmission structures and/or access roads in or next to wetlands may result in discharge of dredged or fill material into Waters of the U.S. Engineering design, transmission structure spotting, best management practices (BMPs), and compliance with regulatory policy would minimize or eliminate impacts to wetlands. Although impacting wetlands is not expected

and is not proposed, it is possible that construction activities may encounter small wetlands not currently known.

Floodplains

Floodplains associated with the Gallatin River could potentially be affected by the Proposed Project. Locating proposed structures and/or access roads in or next to floodplains may have a negative impact on floodplain functions which includes decreasing run-off velocity, reducing flood peaks, and distributing storm flows over longer time periods, causing tributary and main channels to peak at different times. Floodplain habitats associated with riparian and wetland systems may also be negatively impacted. Locating proposed structures and/or access roads in or next to floodplains may result in increased run-off velocity or base flood elevations. Engineering design, structure spotting, BMPs, and compliance with Executive Order 11988 would minimize or eliminate impacts to floodplains. Use of existing roads may pose a risk to floodplains. Access road impacts to floodplains are included in the floodplain analysis in Chapter 3 of this EIS.

Issue #8 – Soils

The Proposed Project traverses many areas of steep terrain and could potentially cause long-term impairment of land productivity and reduced soil quality along portions of the transmission line corridor. Of specific concern is the level of soil disturbance or potential soil erosion caused by temporary access roads, upgrades to access roads, the installation of power transmission lines and transmission structures, and the removal of vegetation along the transmission line ROW.

Measurement of detrimental soil disturbance (DSD), including detrimental effects of compaction, displacement, rutting, severe burning, surface erosion, loss of soil organic matter, and soil mass movement, has been used in Region 1 as a measure to ensure that land productivity and soil quality are not impaired. These standards "apply to lands where vegetation and water resource management are the principal objectives…" (USFS 1999). The NorthWestern transmission line corridor has a singular management objective for the transmission of utility services. All other management objectives are secondary along this corridor. Transmission line corridors are included in the Forest Plan as Management Area 25 along with pipelines, climatic and snow measuring sites, and electronic sites (USFS 1987).

Management Area 25 is, however, subject to all Forest-wide standards, including the maintenance of land productivity and protecting beneficial uses (USFS 1987). Although the DSD standards do not apply directly to this project, the underlying principle of protecting land productivity is still germane to the project.

Valid concerns exist about soil erosion and the potential proliferation of weed species along the transmission line corridor. Both soil erosion and weed infestations are associated with soil disturbance and have the potential to create cumulative impacts outside the utility corridor. As a result, these potential impacts will need to be monitored closely for a period of time after the transmission upgrade is completed, with immediate remediation actions taken if problems occur.

Issue #9 – Noxious Weeds

Ground disturbance, temporary access roads, existing road widening, and increased vehicle activity could cause new weed populations to become established and existing populations to expand. In addition, the ROW corridor, temporary access roads, and existing road widening would create more open, unforested habitat that is suitable for weeds, especially with its proximity to the US Hwy 191, which is known to be a major transport vector for weeds.

Issue #10 – Forested Vegetation and Fire/Fuels

Forested Vegetation

The Proposed Project, during the tree removal operation (ROW clearing), may slightly reduce the amount of forested old growth and increase susceptibility to insects and disease. The Proposed Project also has the potential to increase tree injury during the removal operations. Mitigation and BMPs will be developed for construction, operation and maintenance to manage forest vegetation according to Forest Service standards.

Fire/Fuels

The Proposed Project, during the tree removal operation (ROW clearing), has the potential to increase down woody debris which would potentially contribute to fuel load. Fire/fuels were identified as an issue during interdisciplinary team scoping discussions, initial public scoping, and the NOI comment period. Scoping comments included concerns regarding increased risk of fire through the upgrading of the line from a 69 kV transmission line to a 161 kV transmission line, and increased fuel loading within the ROW. Mitigation and BMPs will be developed for construction, operation and maintenance to manage the fire and fuel load standard according to Forest Service requirements.

Issue #11 – Sensitive Plants

Ground disturbance associated with ROW clearing, construction, and maintenance activities, temporary access roads, existing road widening, and increased vehicle activity could cause impacts to special status plants and their habitat. In addition, the ground disturbance and vehicle traffic could create more open, unforested habitat that is suitable for weeds, especially with its proximity to the US Hwy 191, which is known to be a major transport vector for weeds.

Issue #12 – Wildlife

Ground disturbance associated with ROW clearing, construction, and maintenance activities, temporary access roads, existing road widening, and increased vehicle activity could cause impact to wildlife species and their habitat. Issues associated with specific species are included below.

Threatened, Endangered, and Proposed Threatened Species

Transmission line construction, operation, and maintenance activities could impact threatened and endangered animal species and their habitat. Threatened endangered, and Proposed Threatened animal species—especially grizzly bear, Canada lynx, and wolverine—and their habitat could be affected by construction and operation of the transmission line, temporary access roads, and use of existing access roads. Impacts may include habitat loss; noise disturbance associated with human presence and construction equipment; and increased habitat degradation.

Canada Lynx

Activities such as construction of temporary access roads, use of existing access roads for construction, and ROW clearing in Canada lynx habitat can reduce security cover, remove coarse woody debris, and alter the preferred habitat of their primary prey species, snowshoe hare. Several segments of the current transmission line ROW and Proposed Project Area engage the margins of US Fish and Wildlife Service (USFWS)-designated Canada lynx critical habitat. The loss of forage and cover habitat for snowshoe hare is considered to be part of the reason for their listing throughout their range. Canada lynx and their critical habitat would be addressed in a Biological Assessment as well.

Grizzly Bear

The Proposed Project could affect individuals of this species and associated habitat where grizzly bears occur. Although populations exist in wilderness areas to the west and the Yellowstone Recovery Zone to the east, grizzly bear presence in the Proposed Project Area is considered minimal. Grizzly bear is also analyzed in depth in the Biological Assessment.

North American Wolverine

Ground disturbance associated with ROW clearing, construction and maintenance activities, construction of temporary access roads, and use of existing roads for access could cause impact to the North American wolverine and their habitat. The North American wolverine (wolverine) preferred habitat is high elevation alpine and boreal forests that are cold and receive enough winter precipitation to reliably maintain deep persistent snow late into the warm season (USFWS 2011). Wolverines range widely and are known to occur within one mile of the Proposed Project Area. Transient individuals may cross the area as they move between remote suitable habitats to the east and west.

Management Indicator Species (MIS)

Management Indicator Species (MIS) are species groups whose habitat is most likely to be affected by Forest management activities (Forest Plan page II-18-19) thereby serving as indicators of habitat quality. The Forest Plan directs that habitat is provided for identified MIS species and those native indigenous species that use special or unique habitats. Transmission line construction, operation, and maintenance activities could impact MIS and their habitat. The Proposed Project could affect the: American marten, elk, northern goshawk, bald eagle, and wild trout fisheries. The grizzly bear (described above) is also an MIS for the GNF.

American Marten

The American marten is a species of boreal coniferous forest strongly associated in Montana with late-succession, mesic forests. Martens are identified in the Forest Plan as a management indicator for cool, moist late-succession forest. Ground disturbance associated with ROW clearing, construction and maintenance activities, construction of temporary access roads, and use of existing roads for access could cause impact to American martens and their habitat.

Elk

Ground disturbance associated with ROW clearing, construction and maintenance activities, construction of temporary access roads, and use of existing roads for access could cause impact to elk (and other big game species) and their habitat. Elk are a desirable big game species found in grassy areas for grazing, adjacent to wooded areas for cover. Elk are identified in the Forest Plan as a management indicator for big game habitat (Forest Plan page II-19). The Forest Service manages for productive elk habitat under the assumption they are also managing for most big game ungulate species.

Northern Goshawk

The Proposed Project could affect northern goshawk individuals and associated habitat where they could occur. Vegetation clearing, tree removal, and noise disturbances could alter northern goshawk nesting, post fledging, and foraging habitat or associated behaviors. Habitat modifications resulting from such actions could have an impact on northern goshawk populations.

Bald Eagle

Broad riparian cottonwood galleries and meadows of the lower reaches of the Gallatin River provide more typical roosting and foraging habitat for bald eagles, and trees within the

Proposed Project Area could provide nesting habitat for bald eagles. This former federal-listed species regularly occurs in more confined sections of the Gallatin River canyon on Forest Service managed lands within the Proposed Project Area. Larger (taller) transmission structures and river crossings could pose an increased risk of collision, and/or habitat loss to bald eagles. Electrocution risk is a concern for bald eagles; however, the Proposed Project would be designed to Avian Power Line Interaction Committee (APLIC) standards to safeguard avian species, to include bald eagles.

Sensitive Wildlife Species

Transmission line construction, operation, and maintenance activities could impact sensitive species and their habitat. Sensitive animal species—including gray wolf, bighorn sheep, Townsend big eared bat, westslope cutthroat trout, western Pearlshell mussel, peregrine falcon, trumpeter swan, Harlequin duck, flammulated owl, and black-backed woodpecker—and their habitat could be affected by construction and operation of the transmission line, and temporary access roads. Impacts may include habitat loss; noise disturbance associated with human presence and construction equipment; and increased mortality.

Gray Wolf

Ground disturbance associated with ROW clearing, construction and maintenance activities, construction of temporary access roads, and use of existing roads for access could cause impact to gray wolf and their habitat. Gray wolves occupy habitat on NFS lands in the GNF and other mountain ranges. Gray wolves are habitat generalists, and make use of a wide variety of habitat types throughout their lives. Prey for gray wolves is primarily elk, but other large ungulates, including deer and moose, would also fall prey to gray wolves. Wolves are known to occur within one mile of the Proposed Project Area.

Bighorn Sheep

Ground disturbance associated with ROW clearing, construction, and maintenance activities, construction of temporary access roads, and use of existing roads for access could cause impact to bighorn sheep and their habitat. Bighorn sheep populations occur at higher elevations and south of the Proposed Project Area. However, bighorn sheep are known to occur near the junction of US Hwy 191 and Montana Highway 64 (MT Hwy 64), and northward along US Hwy 191. Habitat alterations and disturbance to lambing areas located to the west of the Gallatin River may occur as part of the Proposed Project.

Peregrine Falcon

Ground disturbance associated with ROW clearing, construction and maintenance activities, construction of temporary access roads, and use of existing roads for access could cause impact to peregrine falcons and their habitat. Peregrine falcons are known to occur and nest within the Gallatin River canyon near the Proposed Project Area. Helicopters are known to be disturbing to peregrine falcons in nesting territories and will likely be used during construction and maintenance activities.

Harlequin Duck

Ground disturbance associated with ROW clearing, construction and maintenance activities, construction of a temporary access road at the proposed Indian Ridge staging area, and use of existing roads for access would not likely cause impacts to the harlequin duck and their preferred breeding habitat, which is characterized by streams with braided channels and numerous islands that provide eddies and adequate loafing sites. Nesting habitat is characterized as dense shrub habitat along stream banks, and slower portions of streams are preferred for brood rearing. There are numerous creek and river crossings that intersect the

Proposed Project Area, which could provide suitable habitat for harlequin ducks. Harlequin ducks have been observed in the Gallatin River within the canyon as transients however, no breeding has been documented in the Gallatin River within the canyon (MTNHP 2011). The action alternatives would span rivers and stream and there is no proposed work within waterways. Stream bank habitat alteration would be avoided due to transmission structures being setback from waterway edges and waterways being spanned. Construction activities would be for temporary periods of time along the approximate 16-mile stretch of the Proposed Project Area over a two-year period of proposed construction timing.

Migratory Birds

Rebuilding and realigning the Proposed Project would result in taller transmission structures with thicker conductors, river crossings, and a potential for more obstructed daily or seasonal flyways through the Gallatin River canyon. This has the potential to increase collision risk and reduce or increase nesting habitat for avian species protected under the Migratory Bird Treaty Act. Under a 2001 Executive Order (E.O. 13186), agencies are required to "ensure that environmental analyses of Federal actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern (SOC)." The SOC that are known to occur in Gallatin County, that could occur within the Proposed Project Area, and that are not addressed in the MIS or Sensitive Species section of the FEIS include the: Black Rosy-Finch, Bobolink, Brewer's Sparrow, Brown Creeper, Burrowing Owl, Cassin's Finch, Clark's Nutcracker, Flammulated Owl, Grasshopper Sparrow, Gray-crowned Rosy-Finch, Great Blue Heron, Great Gray Owl, Horned Grebe, Lewis's Woodpecker, Pacific Wren, Sage Sparrow, Loggerhead Shrike, and golden eagle (MTNHP 2011 and 2012).

Fisheries

Wild Trout

Ground disturbance associated with ROW clearing, construction and maintenance activities, construction of temporary access roads, existing road widening, and increased vehicle activity could cause impact to wild trout species and their habitat. Impacts would include degradation of riparian boundaries, sedimentation, alteration of substrate characteristics or stream gradients, and water quality declines. Wild trout thrive in lower order streams within the GNF. Trout fisheries are indicators of cold water fisheries with high water quality.

Amphibians and Reptiles

Transmission line construction, operation, and maintenance activities could impact amphibian and reptile species and their habitat. Forest sensitive amphibian and reptile species include the northern leopard frog and the western toad. The northern leopard frog is not known to occur in the Proposed Project Area, and therefore is part of the resources eliminated from the detailed analysis section below. The western toad is known to occur in the Proposed Project Area and is discussed below.

Western Toad

Habitat impacts associated with ROW clearing, construction and maintenance activities, construction of temporary access roads, and use of existing roads for access could cause impact to western toads and their habitat. The western toad typically breeds in slow-moving or static water bodies, including streams, springs, ponds, lakes, reservoirs, or stock ponds, while both juveniles and adults may disperse into suitable upland habitat (e.g., forest, woodland, grassland, desert, meadow) during the non-breeding portion of the year, aestivating in burrows or other areas below the surface (Olson 2005). Western toads have the potential to occur in the Proposed Project Area and suitable habitat is present.

Issue #13 – Human Health and Safety and other Considerations

Electric and Magnetic Fields

Upgrades and line improvements associated with the Proposed Project would increase the voltage of the transmission line from 69 kV to 161 kV. The transmission and distribution line currents would increase due to the future load growth. This would result in increased electric and magnetic fields (EMF) values in the ROW. During scoping, levels of EMF were raised as a health concern.

Noise

Construction activities associated with the Proposed Project would result in noise, including truck and helicopter noise. Increasing the voltage of the line has the potential to increase low levels of broad band noise (crackle and hiss) associated with line corona. During scoping, construction and operation noise of the higher voltage transmission line were raised as a concern.

Property Values

The existing ROW across recreation residence lots on NFS lands would be used and slightly expanded for the Proposed Project. The concern by recreation residents is that their property values would be affected by the Proposed Project or the action alternatives through clearing of nearby forested vegetation for the ROW or the presence of transmission poles in the vicinity of the residences. Based on the amount of time recreation residences on leased NFS land remain on the real estate market, they are generally consider desired properties regardless of the presence of utilities.

1.7.3 Resources Eliminated from Detailed Analysis

Resource issues that were considered but eliminated from detailed analysis in this EIS were either: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) not critical to the decision to be made; or 4) conjectural, not supported by scientific or factual evidence, or having no reasonable expectation of significant environmental effects. These issues include:

Hazardous Materials, Waste/Debris Management

During project construction, operation, and maintenance activities, using hazardous materials and generating hazardous waste that could contaminate soil and/or water resources. This could have adverse effects on human health and the environment, including wildlife, vegetation, and air quality. Hazardous materials potentially used during construction include: adhesives, cleaning chemicals, diesel fuel, gasoline, hydraulic fluid, lubricants, oil, paints, and solvents. For purposes of this project, hazardous materials are defined as those chemicals listed in the EPA's *Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112 (r) of the Clean Air Act, as amended*. Extremely hazardous materials are defined by federal regulation in Title 40 CFR Part 355.

Project Design Features (PDFs) and mitigation measures described in Chapter 2 would be implemented to protect resources from the potential impacts from hazardous materials, waste, and debris under any action alternative. Mitigation measures would be required during construction, operation, and maintenance. Hazardous materials would not be drained onto the ground or into streams or drainage areas. Totally enclosed containment would be provided for all trash. All construction waste including trash and litter, and other solid waste, petroleum products and other potentially hazardous materials would be removed to a disposal facility authorized to accept such

materials. In addition to these measures, a spill prevention, containment, and countermeasure (SPCC) plan will be prepared as part of the Construction and Operation Plan (COP). This plan would detail the measures required of all construction, operation, and maintenance personnel for dealing with hazardous materials, waste, and debris. Implementation of the mitigation measures and the SPCC Plan would minimize potential impacts to resource from hazardous materials, waste, and debris from the Proposed Project. Therefore, this issue is not being carried forward for detailed analysis in this EIS.

Wildlife

The wildlife species listed below are not being carried forward for detailed analysis in this EIS because: 1) species specific habitat is not present in the Proposed Project Area: 2) the species does not occur or only occurs minimally as a transient; and 3) mitigation, PDFs and BMPs contained in this EIS would minimize potential impact from the Proposed Project to species. Therefore based on lack of species habitat presence, species absence and/or minimal likelihood of species occurrence, and the implementation of mitigation measures and protection plans, the species listed below will not be analyzed in detail in this EIS. A summary of each species is included below.

Westslope Cutthroat Trout

The Gallatin River presents a world-class cold water fishery for a variety of native and stocked trout species. Within the Proposed Project Area, Forest Sensitive native westslope cutthroat (*Onchorhynchus clarki lewisi*) does not occur. The Proposed Project's ROW crosses fourteen streams capable of sustaining cold water fish populations; however, the native westslope cutthroat does not occur in the analysis area. Hybridization is likely why native westslope cutthroat trout no longer existing in the Project Area. Due to the native westslope cutthroat trout not occurring in the Project Area, this species is not being carried forward for detailed analysis in this EIS.

Western Pearlshell Mussel

The western pearlshell mussel (*Margartifera falcata*) is a coldwater trout stream mussel native to streams within the distribution of its intermediary salmonid hosts. The eastern portion of its distribution is tied to the distribution of westslope cutthroat trout. Suitable habitat consists of sand and gravel substrates in low to moderate gradient cold streams (MNHP 2011). Large sheltering boulders that prevent flood scouring appear to provide important refugia. The species is widespread but significant statewide declines are apparent. Extensive beds were once common in western Montana; however, recent region surveys conducted on NFS lands (MNHP 2010) only found 16 viable populations out of 230 stream reaches surveyed. These surveys did not reveal the presence of western pearlshell mussels in the Proposed Project Area; however, suitable habitat is present. Western pearlshell mussels do not occur in the analysis area. PDFs and mitigation will minimize potential impacts to suitable habitat, and therefore, this species is not being carried forward for detailed analysis in this EIS.

Northern Leopard Frog

Northern leopard frogs usually breed in March or April, in marshes or areas with marshy habitat, including shallow permanent or semi-permanent ponds (McAllister et al. 1999; McAllister 2005). In addition, they may breed in gravel pits, stock ponds, and beaver ponds, and would disperse into upland areas dominated by grasses or shrubs after breeding. Nightly movements can range from 118 feet to 0.5 mile. Migration between seasons has been documented movement up to five miles in distance (MFG 2011b). They spend the winter submerged under rocks or mud at the bottoms of deep lakes and ponds (McAllister 2005),

generally within one mile of their breeding ponds (McAllister et al. 1999). These frogs would typically find habitat at lower elevation sites in western Montana. The percentage of extirpations of historical populations in western Montana is presumed to be high (McAllister et al. 1999). Because of its high elevation suitable habitat for northern leopard frog is marginal at best and the Proposed Project Area is unlikely to support northern leopard frogs. Therefore, this species is not being carried forward for detailed analysis in this EIS.

Trumpeter Swan

The trumpeter swans' preferred nesting and breeding habitat includes marshes, shallow lake waters, beaver ponds, and occasionally oxbows or slow-moving river backwaters (Clark et al. 1989:59). Wintering habitat includes slow-moving rivers and streams that remain ice-free and provide emergent vegetation year-round (USFS 1989:28). Most trumpeter swans are non-migratory; however, open water is required year round for their survival. Trumpeter swans are not known to occur within one mile of the Proposed Project Area. There is a beaver pond in the proposed ROW corridor, although most other water bodies are fast-moving streams and the Gallatin River. The Proposed Project Area does not have suitable wintering habitat, but there is some marginal breeding habitat. Due to the lack of suitable habitat in the analysis area, and minimal likelihood for this species to occur, this species is not being carried forward for detailed analysis in this EIS.

Flammulated Owl

Impacts associated with ROW clearing, construction and maintenance activities, construction of temporary access roads, and use of existing roads for access could cause impact to flammulated owls and their habitat. Flammulated owls are small, migratory owls that inhabit dry, open forest types (Sibley 2003) with a preference for ponderosa pine for nesting habitat. Flammulated owls are not known to occur within one mile of the Proposed Project Area. Marginal flammulated owl habitat is present in the existing ROW and minimal habitat would be removed as a result of building the proposed 161 kV transmission line. Due to no known occurrences within one mile of the Project Area and marginal quality habitat in the immediate project area, this species is not being carried forward for detailed analysis in this EIS.

Black-backed Woodpecker

The black-backed woodpecker is a resident species in Montana (MTNHP 2011) that is adapted to burned habitats (Sibley 2003), particularly conifer forests that have been burned or have sustained some other large scale natural forest disturbance (Blackford 1955; Hutto 1995). The species nests in burned areas when possible, and almost always in snags. Foraging takes place on the boles of moderate to heavily burned trees by excavating into the tree or flaking the remaining bark off with the beak to search for grubs and other insects underneath. Black-backed woodpeckers typically select nest locations in stands with high tree density, small tree diameter, and few non-decayed snags (Saab and Dudley 1998). Black-backed woodpeckers are not known to occur within one mile of the proposed ROW corridor. Preferred burned habitat or potential habitat within stand die-off from disease is minimal in the project area. Therefore, this species is not being carried forward for detailed analysis in this EIS.

Townsend's Big-Eared Bat

Townsend's big-eared bat utilizes caves, tunnels, and abandoned mine shafts, which serve as winter hibernacula for this non-migrant species, and also as maternity roosts for reproductive females. When not in hibernation, individuals may utilize caves, tunnels, buildings, and trees for nightly roosts. Townsend's big-eared bats are commonly associated with mesic and open, shrubby habitats in coniferous and deciduous forests (Kunz and Martin 1982). The primary prey species are Lepidopteran species (moths), which reproduce on trees and shrubs, rather

than on grasses (Hamilton and Whitaker 1979; IDFG 1995:26). The greatest threats to this species are loss of woody species dominated foraging habitats and human disturbance of hibernation and maternity roost sites. Disturbance of hibernating bats or a maternity roost is likely to result in abandonment of that roost. Townsend's big-eared bats are not known to occur within one mile of the Proposed Action Area. No hibernation sites or maternity roosts are known in the Proposed Project Area. Rocky exposures, caves or abandoned mine shafts may occur within or adjacent to the Proposed Action Area that would provide suitable roosting habitat for bats. Because bats are volant and wide-ranging, individuals (especially bachelor males) could occur during summer months in the Proposed Action Area in a transient fashion. Tree clearing along the 16-mile ROW may have a negligible effect on these individuals as they might be displaced from foraging. Rebuilding the 69 kV Jack Rabbit to Big Sky Meadow Village transmission line under the Proposed Action-Alternative 2 and other action alternatives would not likely impact Townsend's big-eared bats.

Because of the absence of records of this species in the Project Area, lack of known roosts, low likelihood of the Proposed Project to affect suitable rocky areas and the negligible amount of wooded foraging habitat that would be affected by construction, Townsend's big-eared bat is not analyzed in detail.